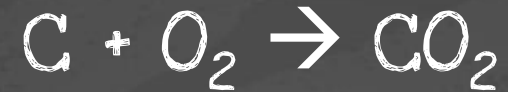
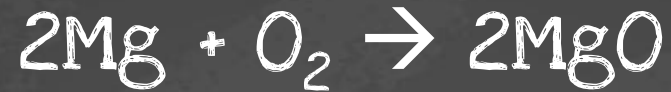




<https://youtu.be/KqQA-80yy6U>

Oxides' formation

Reactions with oxygen:



Oxides are chemical compounds with one or more oxygen atoms combined with another element.



<https://youtu.be/kpCGIF8djms>

YouTube

Royal Society of Chemistry

Fire and Flame



[This Photo](#)

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Hydrogen

The most abundant element in the universe.

The charge of the nucleus - (+1)

The number of electrons - 1

Atomic mass - 1

Valence - 1

Most common oxidation state - (+1)

Hydrogen molecule - H_2

Molecular mass - 2 amu

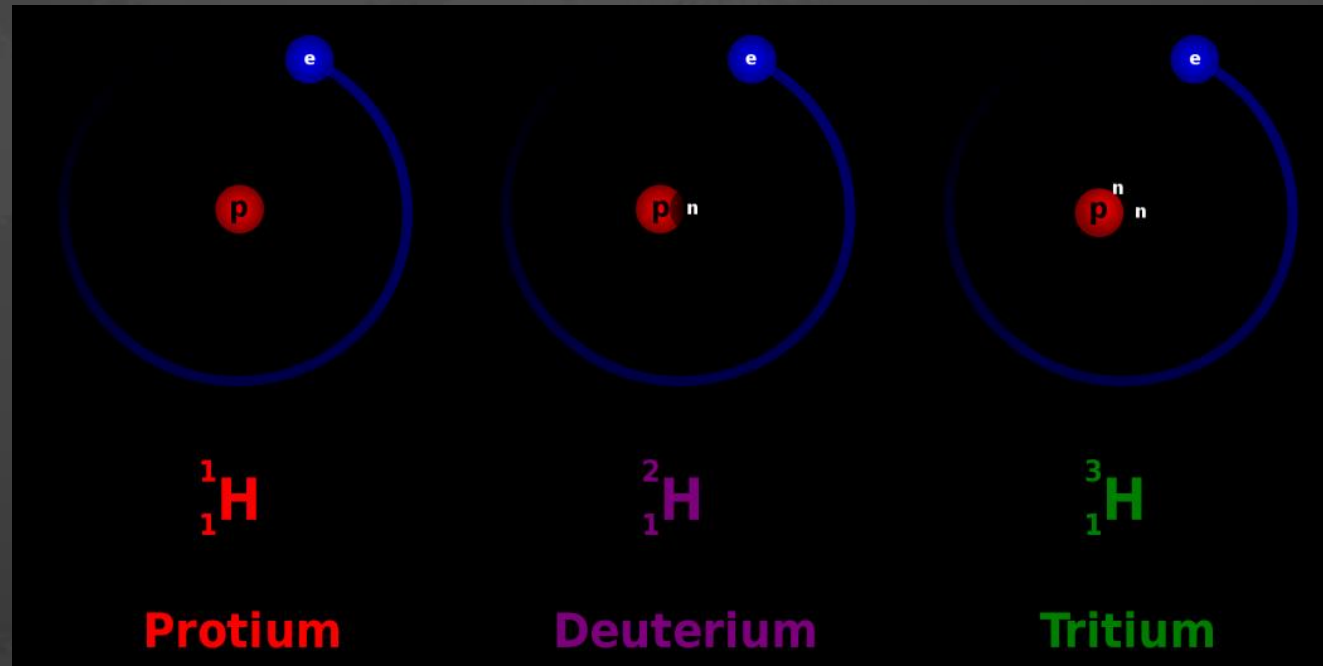
Molar mass - 2 g/mole

1	1 H Hydrogen 1.008	
2	3 Li Lithium 6.941	4 Be Beryllium 9.012
3	11 Na Sodium 22.990	12 Mg Magnesium 24.305
4	19 K Potassium 39.098	20 Ca Calcium 40.078

$1s^1$

Hydrogen forms strong covalent molecules H_2 .

It has 3 isotopes with different names:



The first electron shell can hold only 2 electrons. Hydrogen can lose its electron or acquire an electron for a stable configuration



Obtaining H₂

HF, HCl, H₂O

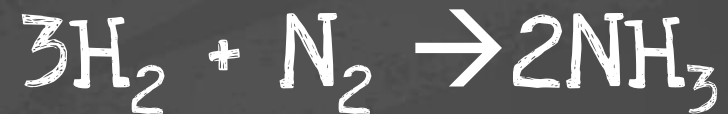




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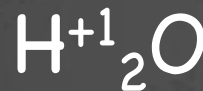
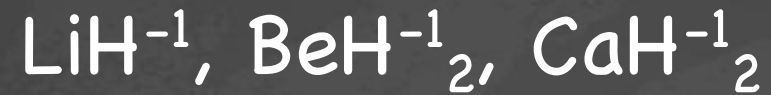


Hydrogen reactions



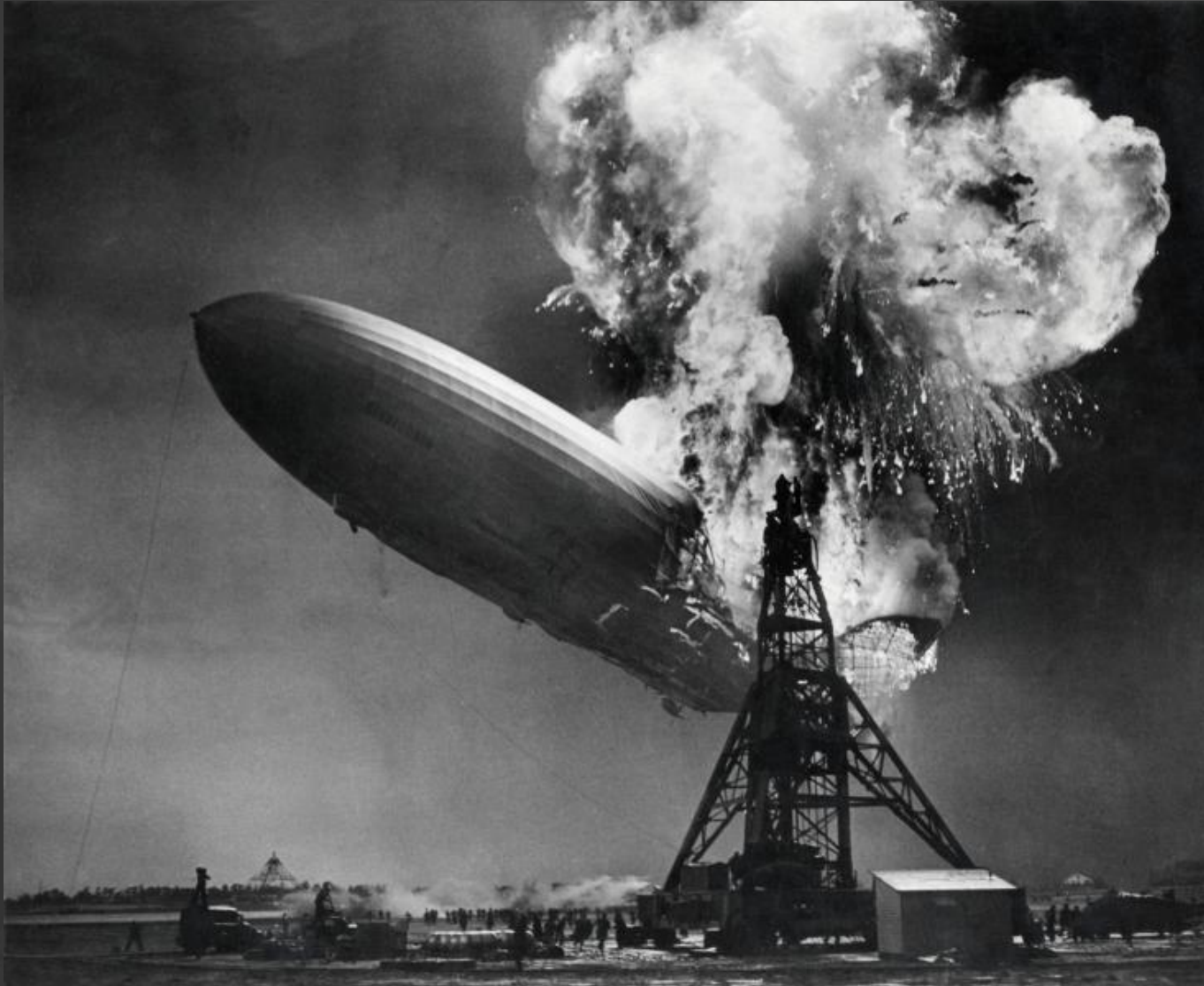
Hydrogen compounds

1	1 H Hydrogen 1.008	
2	3 Li Lithium 6.941	4 Be Beryllium 9.012
3	11 Na Sodium 22.990	12 Mg Magnesium 24.305
4	19 K Potassium 39.098	20 Ca Calcium 40.078
5	37 Rb Rubidium 85.468	38 Sr Strontium 87.62
6	55 Cs Cesium 132.905	56 Ba Barium 137.328



13 5 B Boron 10.811	14 6 C Carbon 12.011	15 7 N Nitrogen 14.007	16 8 O Oxygen 15.999	17 9 F Fluorine 18.998
13 13 Al Aluminum 26.982	14 14 Si Silicon 28.086	15 15 P Phosphorus 30.974	16 16 S Sulfur 32.066	17 17 Cl Chlorine 35.453
31 31 Ga Gallium 69.723	32 32 Ge Germanium 72.631	33 33 As Arsenic 74.922	34 34 Se Selenium 78.971	35 35 Br Bromine 79.904
49 49 In Indium 114.818	50 50 Sn Tin 118.711	51 51 Sb Antimony 121.760	52 52 Te Tellurium 127.6	53 53 I Iodine 126.904
81 81 Tl Thallium 204.383	82 82 Pb Lead 207.2	83 83 Bi Bismuth 208.980	84 84 Po Polonium [208.982]	85 85 At Astatine 209.987

Hydrogen reaction with oxygen



Airship Hindenburg, 1937